

What is claimed is:

1. A monoclonal antibody said monoclonal antibody having binding specificity for a single epitope of the estrogen receptor- β protein.
2. A monoclonal antibody said monoclonal antibody having binding specificity for a single epitope of the estrogen receptor- β protein in a histological sample.
3. The monoclonal antibody of claim 2 wherein said histological sample is a fixed paraffin-embedded tissue.
4. The monoclonal antibody of claim 3 wherein said tissue is selected of ERB-containing tissues selected from the group of breast, prostate, testis, ovary, thymus, spleen, adipose, uterus, pituitary, and kidney.
5. The monoclonal antibody of either of claims 1 or 2 wherein said epitope lies within amino acid residues 1-146 of ERB.
6. The antibody of claim 5, said antibody consisting of anti-estrogen receptor- β antibody produced by hybridoma clone 14C8.

7. The monoclonal antibody of either of claims 1 or 2 wherein said epitope lies within amino acid residues 1-36 of ERB.

8. The monoclonal antibody of either of claim 1 or claim 2 wherein said epitope lies within amino acid residues 36-146.

9. The monoclonal antibody of either of claim 1 or claim 2 where in said estrogen receptor- β protein is an isoform selected from the group ER β 1, ER β 2, ER β 3, ER β 4, ER β 5, and Er β cx.

10. A monoclonal antibody said monoclonal antibody having binding specificity for a single epitope of the estrogen receptor- β protein, wherein said epitope is selected from the group of epitopes lying within the amino acid ranges 1-146, 1-36 and 36-146.

11. A monoclonal antibody said monoclonal antibody having binding specificity for a single epitope of the estrogen receptor- β protein in a histological sample, wherein said histological sample is a fixed paraffin-embedded tissue.

12. A monoclonal antibody said monoclonal antibody having binding specificity for a single epitope of the estrogen receptor- β protein in a histological sample, wherein said histological sample is a fixed paraffin-embedded tissue, wherein said tissue is breast tissue.

13. A monoclonal antibody said monoclonal antibody having binding specificity for a single epitope of the estrogen receptor- β protein in a histological sample, wherein said histological sample is a fixed paraffin-embedded tissue, wherein said tissue is breast tissue, wherein said epitope is one lying within the amino acid range 1-146 of said protein, and wherein said monoclonal antibody is produced by hybridoma clone 14C8.

14. The monoclonal antibody of either of claim 1 or claim 2 selected from the group consisting of an anti-estrogen receptor- β antibody from hybridoma clones 14C8, 14G2, 4D2, 6B12, and 6A12.

15. A monoclonal antibody selected from the group consisting of anti-estrogen receptor- β antibodies from hybridoma clones 14C8, 14G2, 4D2, 6B12, and 6A12.

16. A hybridoma which produces a monoclonal antibody that specifically binds to estrogen receptor- β , said hybridoma comprising:

an antibody producing cell producing a monoclonal antibody having binding specificity for a single epitope on estrogen receptor- β protein; and

a tumor cell fused with said antibody producing cell.

17. A method for detection of estrogen receptor- β in a biological sample comprising:
contacting said sample with the antibody of claim 1; and
detecting the presence of estrogen receptor- β in said sample using an analytical technique selected from the group consisting of radioimmunoassay, immunoprecipitation, western blotting, enzyme-linked immunosorbent assays (ELISA), and immunocytochemistry.

18. A method for detection of a range of estrogen receptor- β isoforms in a biological sample comprising:

differentially labeling at least two antibodies of claim 9, each antibody specifically and uniquely recognizing one of said isoforms

contacting said sample with the antibodies; and

detecting the presence of estrogen receptor- β isoforms in said sample using an analytical technique selected from the group consisting of radioimmunoassay, immunoprecipitation, Western blotting, enzyme-linked immunosorbent assays (ELISA), and immunocytochemistry.

19. A kit for detection of estrogen receptor- β in a biological sample comprising:

a blocking reagent;

a monoclonal antibody of either of claim 1, claim 2 or claim 9;

a secondary antibody;

an avidin solution;

a biotinylated horseradish peroxidase solution;
a hydrogen peroxide solution; and
diaminobenzidine tablets.

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